State of California
California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2009-0033
NPDES No. CAS618033

for
Riverside County Flood Control and Water Conservation District,
The County of Riverside and the Cities of Riverside County
Within the Santa Ana Region
AREA-WIDE URBAN STORM WATER RUNOFF MANAGEMENT PROGRAM

I. OBJECTIVES

The overall goal of the urban storm water runoff monitoring program is to support the development of an effective urban storm water runoff management program. The following are the major objectives:

A. To identify those receiving waters, which, without additional action to control pollution from urban storm water runoff, cannot reasonably be expected to achieve or maintain applicable water quality standards required to sustain the designated beneficial uses, the goals, and the objectives of the Basin Plan.

B. To develop and support an effective MS4 management program.

C. To identify significant water quality problems, related to discharges of urban storm water runoff within the permitted area.

D. To determine water quality status, trends, and pollutants of concern associated with urban storm water runoff and their impact on the beneficial uses of the receiving waters.

E. To analyze and interpret the collected data to determine the impact of urban storm water runoff and/or validate relevant water quality models.

F. To characterize pollutants associated with urban storm water runoff, and to assess the influence of urban land uses on receiving water quality and associated beneficial uses.

G. To identify other sources of pollutants in urban storm water runoff to the maximum extent possible (e.g., including, but not limited to, atmospheric deposition, contaminated sediments, other non-point sources, etc.)

H. To identify and permit or prohibit illicit connections.

I. To identify, verify and prohibit illegal discharges.

J. To verify and to identify sources of Urban Runoff pollutants.

K. To evaluate the effectiveness of the DAMP and WQMPs, including an estimate of pollutant reductions achieved by the site design (LID), treatment and source control BMPs implemented by the Permittees.

L. To evaluate the effectiveness of proposed urban storm water runoff management programs to protect receiving water quality.

II. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All sample collection, handling, storage, and analysis shall be in accordance with test procedures under 40 CFR Part 136 (latest edition) "*Guidelines Establishing Test Procedures for the Analysis of Pollutants*," promulgated by the USEPA, the guidance being developed by the State Board pursuant to Water Code Section 13383.5, or other methods which are more sensitive than those specified in 40 CFR 136 and approved by the Executive Officer. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) shall be used for all analyses, unless otherwise specified.

For priority toxic pollutants, if the Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to raising the ML for any constituent.

B. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

C. Analytical methods, target reporting limits and data reporting formats shall be compatible with California's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan and with SWAMP's Procedures for Conducting Routine Field Measurement unless otherwise specified in this Monitoring and Reporting Program.

D. Revisions of this monitoring and reporting program (MRP) are appropriate to ensure that the Permittees are in compliance with requirements and provisions contained in this Order. Revisions may be made under the direction of the Executive Officer at any time during the term of the Order, and may include redistribution of monitoring resources to address TMDL needs, a reduction or

increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples collected.

E. The Executive Officer is authorized to allow the Permittees to participate in regional, statewide, national, or other monitoring programs in addition to or as part of this Urban Runoff monitoring program. Also, the Permittees are authorized to complement their Urban Runoff monitoring data with data from other monitoring sources, provided the monitoring conditions and sources are similar to those in the Santa Ana River watershed.

F. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both [40 CFR 122.41(j)(5)].

III. MONITORING PROGRAM

A. The Principal Permittee has been monitoring Urban Runoff and receiving waters since the first MS4 permit term. The Principal Permittee currently implements the Consolidated Monitoring Program (CMP) and participates in a number of other storm water or TMDL related monitoring programs such as: TMDL Bacterial and Nutrient Monitoring, WLA Compliance, BMP Effectiveness, Urban Source and Trend Evaluation, Receiving Water Quality, Hydromodification and Bioassessment. The Principal Permittee shall continue to implement the CMP and continue to participate in other related monitoring programs.

B. The Principal Permittee, on behalf of the Co-Permittees, participates (through a memorandum of understanding and cooperative agreements) with the 16 member agencies of the Storm Water Monitoring Coalition (SMC). The Permittees shall continue to cooperate with other MS4 permittees (including Orange County and San Bernardino County), Southern California Coastal Water Research Project (SCCWRP), POTW operators, the dairy industry, the Santa Ana Watershed Project Authority (SAWPA), and other public and private organizations in the watershed to develop coordinated surface water quality monitoring programs, databases, and special studies as appropriate. The Regional Board supports continued coordination with SCCWRP and the SMC to facilitate and implement coordinated watershed based monitoring programs. The Permittees may use coordinated monitoring efforts such as the Middle Santa Ana and Lake Elsinore TMDL Task Forces, SCCWRP and SMC regional monitoring programs to address partially, or in full, the requirements of this Monitoring and

Reporting Program. A proposed coordinated monitoring program shall result in the development and implementation of a monitoring plan that:

1. Fully addresses the requirements of this Monitoring and Reporting Program;

2. Describes how the external monitoring programs address the requirements of the Monitoring and Reporting Program;

3. Include a quality assurance plan , including data management, validation, verification mechanism for the portions of the monitoring directly conducted by the Permittees;

4. Reference the locations of the quality assurance plans for regional components; and

5. Result in a coordinated annual report summarizing the pertinent Urban Runoff data from the coordinated programs necessary to address this Monitoring and Reporting Program.

C. Within 12 months of adoption of this Order, the Permittees shall review the CMP, Regional and TMDL related monitoring programs that they conduct or participate to determine their effectiveness in achieving the Urban Runoff assessment requirements contained in Section IV.B, below. .If this review indicates any data gaps, the Principal Permittee shall submit a revised CMP, or coordinate revisions to other regional programs for approval of the Executive Officer to ensure that the combined efforts adequately address the requirements of Section IV.B. The revised CMP, including a description of how other regional efforts combine with the CMP to address requirements of Section IV.B shall be submitted within 16 months of adoption of this Order and shall be implemented within six months of its approval by the Executive Officer.

Pending approval of the revised CMP, current monitoring efforts will continue to be implemented.

D. <u>TMDL/303(d) Listed Waterbody Monitoring</u>: The Permittees identified as dischargers in adopted TMDLs shall continue to participate in TMDL monitoring programs as required by TMDL Implementation Plans. The compliance schedules for the two approved TMDLs within the permitted area are beyond the five year permit term. This Order requires Permittees identified as dischargers in their respective TDMLs to conduct monitoring required by the TMDL Implementation Plans to determine the effectiveness of the BMPs implemented in reducing pollutant loads and eventually to attain WLA by the deadlines specified in the respective TMDL implementation plans.

1. MSAR Bacteria WLA TMDL USEP monitoring

   By February 15, 2010, the Permittees shall revise the DAMP to incorporate a plan and a schedule to achieve bacterial indicator WLAs based on the schedule established in the TMDLs. The plan shall include workplans or actions proposed by each permittee within the MSAR to be implemented within its jurisdiction attained necessary portion reduction. The MS4 Permittees shall track and annually report their progress for compliance with the MSAR Bacteria WLA at the location specified in the MSAR bactierial indicator TMDL or other appropriate urban source monitoring locations.

2. Lake Elsinore/Canyon Lake Nutrient TMDL

   Monitor and report the effectiveness of the control measures implemented in the watershed to control nutrient inputs into the lakes from Urban Runoff by implementing the following:

   a. Within twelve months of adoption of this Order, the Permittees within the San Jacinto watershed shall identify representative urban storm water runoff monitoring locations for discharges into the lakes. Selection of those monitoring locations shall take into account the size of the drainage area and potential sources of nutrients within each drainage area. Those monitoring locations may include existing storm water core monitoring locations and the Phase II watershed wide TMDL monitoring locations.

   b. Beginning with the 2012-2013 annual report, and every three years thereafter, include an evaluation of nutrient source reductions during the prior three years. This evaluation should indicate how the source reduction plans implemented by each Permittee are geared towards meeting the WLAs by the 2020 compliance date. Since the WLAs are based on a 10-year running average, data from storm water core monitoring locations may be used to project loading reductions.

E. In addition, any requirements developed by the State Board in accordance with Water Code Section 13383.5 shall be considered during any revision of the CMP. The revised CMP shall, at a minimum, include the following:

   1. <u>Mass Emissions Monitoring – Core Stations</u>:

      a. An estimate of flow in cubic feet per second (cfs) from the outfall/stream at the time of sampling.

      b. Monitor mass emissions in urban storm water runoff to:

         i) Estimate the total mass emissions from the MS4s to receiving waters.

ii) Assess trends in mass emissions associated with specific urban storm water discharges from their MS4s over time to correlate land use and population changes.; and

iii) Determine if urban storm water runoff is contributing to exceedances of water quality objectives or beneficial uses in receiving waters by comparing outfall and receiving water results to: (1) Basin Plan Water quality Objectives (WQOs); (2) EPA storm water benchmarks contained in the EPA Multi-Sector Industrial Storm Water Permit; (3) California Toxic Rule (CTR) and (4) other MS4 discharger's monitoring data.

iv) Representative samples from the first sampleable storm event (based on mobilization criteria to be established in the CMP) of the rainy season (October 1 to May 31) and two more storm events shall be collected during the rainy season. A minimum of two dry-weather samples shall also be collected. Samples from the first sampleable storm event each year shall be analyzed for constituents according to the list provided in the 2007-2008 Santa Ana Region Monitoring Annual Report, Attachment A. This list includes 40 CFR 122 Appendix D Tables II and III, and Tables IV and V if expected to be present, and additional constituents. All samples shall be analyzed for *E. coli*, nutrients (Nitrates + Nitrites, potassium, and phosphorous), hardness[1], metals, pH, TSS, TOC, pesticides/herbicides, and pollutants/stressors for 303(d) listed receiving waters. Dry weather samples should also include analyses for TPH (8015M – direct injection) and oil and grease. The analyte list will be reviewed annually. Constituents may be added to the list for a selected monitoring station if they are expected to be present, and removed from the list if three consecutive samples from the station have not had detectable concentrations of the constituent.

v) A mass loading model shall be used to calculate the mass loadings and to the extent practicable all monitoring locations and monitoring data shall be integrated into a GIS database system.

2. Water Column Toxicity Monitoring: Analyses for toxicity to aquatic species shall be performed on receiving water samples to determine the impacts of urban storm water runoff on toxicity of receiving waters. The *Ceriodaphnia dubia* survival (acute), Fathead Minnow larval survival (acute), and Selenastrum Capricornutum growth (chronic) tests shall be used to evaluate toxicity on the sample from the first sampleable storm event, plus one other wet weather sample. Where applicable, two dry weather samples shall also be collected or equivalent procedures shall be proposed in the CMP. In addition, criteria shall be identified which will trigger the initiation of Toxicity Identification Evaluations (TIEs) and Toxicity Reduction Evaluations (TREs).

[1] Hardness is necessary to evaluate some metal objectives in receiving waters.

To the extent that the toxicity testing developed as part of the Regional Bioassessment Monitoring described in item 5 and Section D below, or other standardized toxicity testing protocols developed by the SWRCB, RWQCB, SMC or SCCWRP, satisfies the objective of determining the impact of Urban Runoff on toxicity of receiving waters, the Permittees may satisfy this requirement by participating in the regional bioassessment effort or conducting toxicity testing consistent with the standardized protocols.

3. Illicit Connection/Illegal Discharge (IC/ID) Monitoring: The Permittees shall review and update their dry and wet weather reconnaissance strategies to identify and eliminate illegal discharges and illicit connections using the Guidance Manual for Illicit Discharge, Detection, and Elimination developed by the Center for Watershed Protection[2] or any other equivalent program. Where possible, the use of GIS to identify geographic areas with a high density of industries associated with gross pollution (e.g. electroplating industries, auto dismantlers) and/or locations subject to maximum sediment loss (e.g. new development) may be used to determine areas for intensive monitoring efforts.

   The dry weather monitoring for nitrogen and total dissolved solids shall be included as part of the IC/ID monitoring program. Establish a baseline dry weather flow concentration for TDS and TIN at each Core monitoring location.

4. Sources of Data: Where possible and applicable, data shall be obtained from monitoring efforts of other public or private agencies/entities (e.g., Caltrans).

5. Bioassessment: In lieu of developing an independent bioassessment program as required in the prior term permit, the Principal Permittee, on behalf of the Co-Permittees, participates (through a memorandum of understanding and cooperative agreements) with the 16 member agencies of the Storm Water Monitoring Coalition (SMC). The SMC's Bioassessment Working Group conducts bioassessments on a regional basis. The Principal Permittee in coordination with SCCWRP shall ensure that a sufficient number of monitoring stations are selected for this program from locations within the permitted area.

   a. The Principal Permittee, in collaboration with the SMC, shall conduct sampling, analysis, and reporting of specified in-stream biological and habitat data within the 5-year permit cycle according to the protocols specified in the SCCWRP Tech Report No. 539.

   b. Within the Riverside County , the bioassessment project area consists of the lower half of the Middle Santa Ana River Watershed, the San Jacinto Watershed, and the northern Santa Margarita Watershed (northern San Diego) for a total of 1.5 watershed units, a minimum of 9 samples shall be collected per year[3]. Within Riverside County's Santa Ana and San Jacinto

[2] USEPA (Illicit Discharge Detection and Elimination - A Guidance Manual for Program Development and Technical Assessments) by the Center for Watershed Protection and Robert Pitt, University of Alabama, October 2004, updated 2005).
[3] See Table 4 page 15 of Technical Report No.539.

Watersheds, which are permitted areas of this Order, the Permittees shall sample 5 sites per year. SWAMP samples 2 sites per year.

c. For long-term trend monitoring, the Principal Permittee shall collect a minimum of 1 sample per year during the dry weather index period, as noted in the SCCWRP Tech Report No. 539. Additional samples may be collected to improve data quality for trend analysis. At a minimum, chemistry and aquatic toxicity should be used as indicators for trend analysis.

d. Any baseline and historic information on stream geomorphology and ecological health, including aquatic habitats, in the receiving waters and the findings from the trend analysis shall be used to evaluate the effectiveness of urban storm water management program, including the requirements specified in the Order.

6. A Quality Assurance Program Plan within the CMP that describes how data will be collected and analyzed to ensure that data is consistent with State and Regional Board monitoring programs and is of high quality. Dischargers shall develop a Quality Assurance Program Plan (QAPP) that is compatible with the State's Surface Water Ambient Monitoring Program (SWAMP) QAPP and approved by the Regional Board's Quality Assurance Officer. A QAPP template is available, upon request, through the State Water Resources Control Board's SWAMP website (http://www.waterboards.ca.gov/water_issues/programs/swamp/qapp.shtml). All analytical methods, target reporting limits, and data reporting formats should be SWAMP compatible unless otherwise specified in this Monitoring and Reporting Program. The QAPP will include location of sample site(s), description of analytical techniques, data quality objectives, and other standard quality assurance information.
7. A procedure for the collection, analysis, and interpretation of existing data from local, regional or national monitoring programs. These data sources may be utilized to:
   a. Characterize different sources of pollutants discharged to the MS4;
   b. Determine pollutant generation, transport and fate;
   c. Develop a relationship between land use, development size, storm size and the event mean concentration of pollutants;
   d. Determine spatial and temporal variances in urban storm water runoff quality and seasonal and other bias in the collected data; and
   e. Identify any unique features of the permitted area.
   f. The Permittees are encouraged to use data from similar studies, if available.

8. The CMP update shall include descriptions of:
   a. The number of monitoring stations;
   b. Monitoring locations within MS4s, major outfalls, and receiving waters; environmental indicators (e.g., ecosystem, flow, biological, habitat, chemical, sediment, stream health, etc.) chosen for monitoring; The initial update shall at least contain the sampling stations listed in Table 1, below:

Table 1 Current Core Monitoring Stations

Station Number	Class	Station Description	Latitude	Longitude
40	Outfall	Corona Storm Drain – Line K Harrison & Sheridan St.	33.885	-117.568611
316	Outfall	Sunnymead Chanel – Line B Alessandro & Heacock	33.917778	-117.242222
318	Outfall	Hemet Channel @ Sanderson Ave.	33.734167	-117.005556
364	Outfall	Magnolia Center – SD @ Santa Ana River	33.964722	-117.414444
702	Outfall	University Wash – Market & Bowling Green	33.9975	-117.370833
707	Outfall	North Norco Channel @ Country Club Lane	33.907778	-117.583889
752	Outfall	Perris Line J - Sunset Ave below Murrieta Rd.	33.803333	-117.2075
792	TMDL – RW*.	San Jacinto River @ Cranston Guard Station	33.7328	-116.8361
745	TMDL – RW*.	Salt Creek @ Murrieta Road	33.6871	-117.2013
759	TMDL – RW*.	San Jacinto River @ Goetz Rd	33.7517	-117.2237
741	TMDL – RW*.	San Jacinto River @ Ramona Expressway	33.8383	-117.1367
841	TMDL – RW*.	Canyon Lake spillway	33.6754	-117.2729
Starting Jan 1, 2011[4]				
318	TMDL – RW*.	Hemet Channel at Sanderson Ave.	33.73417	-117.0062
325	TMDL – RW*.	Perris Valley Storm Drain @ Nuevo Rd.	33.8011	-117.2053
827	TMDL – RW*.	San Jacinto River upstream of Lake Elsinore	33.6642	-117.293
834	TMDL – RW*.	Sierra Park Drain in Canyon Lake	33.6949	-117.2604
NS-1	TMDL – RW*.	Medowbrook (Marie St & SH 74 Perris)	33.7613	-117.2668
NS-2	TMDL – RW*.	Kitching St. & Iris Ave., Moreno Valley	33.888	-117.2174
NS-3	TMDL – RW*.	Bridge St. & SJ River, San Jacinto	33.853	-117.0683
NS-4	TMDL – RW*.	State St., & SJ River, San Jacinto	33.819	-117.9735

*TMDL - RW. TMDL Receiving Water

c. Total number of samples to be collected from each station, frequency of sampling during wet and dry weather, short duration or long duration storm events, type of samples (grab, 24-hour composite, etc.), justification for composite versus discrete sampling, type of sampling equipment, quality assurance/quality control procedures followed during sampling and analysis, analysis protocols to be followed (including sample preparation and maximum reporting limits), and qualifications of laboratories performing analyses;

d. A procedure for analyzing the collected data and interpreting the results. This procedure shall include the evaluation of the effectiveness of the management practices, a comparative analysis of the Permittees' monitoring data to the USEPA Multi-Sector Permit Parameter Benchmark Values and applicable water quality objectives specified in Chapter 4 of the Basin Plan, and the need for any refinement of the WQMPs, the DAMP and or/the LIPs.

e. Parameters selected for field screening and for laboratory work; and

f. A description of the responsibilities of all the participants in this program, including cost sharing.

g. Receiving Water Monitoring:

Permittees shall select a number of representative receiving water locations within their jurisdiction. These locations should be close to MS4 discharge points and should include locations where chronic and/or persistent water quality problems have been identified. The objective of receiving water monitoring is to determine if urban runoff is causing or contributing to violations of water quality standards in the receiving waters.

h. Monitoring within MS4s:
Permittees shall select a number of representative locations (representative of flow, duration, pollutant loads, etc.) within storm water conveyance systems within their jurisdiction. The objective of this monitoring element is to determine the pollutant loads from the MS4s and to determine their trend. This monitoring requirement maybe combined with the mass emissions monitoring described in F.1, above.

F. REGIONAL WATERSHED MONITORING

1. The objectives of the Regional Watershed Monitoring Program overseen by the State Board's Storm Water Ambient Monitoring Program (SWAMP) and the Storm Water Monitoring Coalition (SMC) and coordinated by the Southern California Coastal Water Research Project (SCCWRP) are:

a. To assess the current status of streams in Southern California.

b. To identify major stressors to aquatic life.

c. To monitor the trend in water quality in Southern California streams.

2. The bioassessment discussed above, should provide information about the biological, chemical and toxicological integrity of receiving waters. Baseline and trend monitoring information on the biotic and geomorphological condition of the receiving waters should be used to evaluate the effectiveness of the Urban Runoff pollution control measures.

3. The Riverside County Regional Watershed monitoring area is within the lower half of the Middle Santa Ana River Watershed, the San Jacinto Watershed, and the northern Santa Margarita watershed (northern San Diego) for a total of 1.5 watershed units[5]. Within Riverside County's Santa Ana and San Jacinto Watersheds, the Permittees sample 5 sites per year. SWAMP samples 2 sites per year.

4. The sampling sites in each watershed unit were determined according to distribution or abundance of the three land uses: urban, agriculture, or open. The sampling grid includes 15 watershed units located from Ventura to San Diego and as far east as San Bernardino and Riverside Counties. A total of 450 samples in the 15 watershed units will be collected within a five year period to assess the spatial extent of impacts to streams within the area. Samples will be collected at sites representing each of the three land use types. Each site will be sampled only once during an index period and not all sites need to be sampled during the same year. One-fifth of the samples (90 samples) will be collected each year for the 15 watersheds. Sampling events shall be conducted between 4 to 12 weeks following the last significant rainfall. No sampling shall occur within 72 hours of any measurable rainfall. The default index period will be from May 15 to July 15. The specifics and details of the Regional Watershed Program are discussed in "The Regional Monitoring of Southern California's Watershed SMC Bioassessment Working Group", SCCWRP, Technical Report No. 539, December 2007 (The Tech Report).

5. Any baseline and historic information on stream geomorphology and ecological health, including aquatic habitats, in the receiving waters and the findings from the trend analysis shall be used to evaluate the effectiveness of Urban Runoff management program, including the requirements specified in the Order.

[5] See Table 4 page 15 of Technical Report No.539.

G. HYDROMODIFICATION MONITORING PROGRAM

This Order requires development and implementation of a hydromodification monitoring plan as part of the Watershed Action Plan (WAP) to evaluate the effectiveness of hydromodification controls () implemented within the permitted area (Some or all of the following requirements may be satisfied by the Permittees participation in the "Development of Tools for Hydromodification Assessment and Management' Project" undertaken by the SMC and coordinated by SCCWRP and follow on efforts to develop hydromodification monitoring guidance).

1. The Order requires the Permittees to revise the DAMP to incorporate Watershed Action Plan principles within three years of adoption of the Order. The hydromodification requirements require the permittees to identify vulnerable streams and possible control measures to minimize hydrologic impacts and tools to measure any impacts on geomorphology and aquatic resources.
2. The hydromodification monitoring program shall include:
   a. Protocols for ongoing monitoring to assess the effectiveness of hydromodification management within the permitted area.

   b. Models to predict the effects of urbanization on stream stability within the permitted area.

H. LOW IMPACT DEVELOPMENT BMP MONITORING

The Principal Permittee shall continue to participate in data collection and monitoring to assess the effectiveness of low impact development techniques in semi-arid climate as part of the SMC project titled, "Quantifying the Effectiveness of Site Design/ Low Impact Development Best Management Practices in Southern California". The Principal Permittee is also developing a regional LID BMP testing and demonstration facility at the main office that meets the intent of this requirement (currently the facility data is intended to be integrated into the SMC project).

J. Pilot Studies

1. The data obtained from the receiving water monitoring shall be analyzed using the State's Listing Policy to determine the number of times the representative receiving waters monitored exceed the applicable water quality standards. If a pollutant exceeds the allowable rate of exceedance in the Listing Policy, the Permittees should develop and implement pilot studies to determine the BMPs to address the problem pollutant in urban runoff. Upon completion of the pilot study, the Permittees should propose appropriate control measures to the Executive Officer to address pollutants causing the

impairment in the receiving waters. Upon approval by the Executive Officer, the approved BMPs shall be implemented in accordance with the schedule approved by the Executive Officer.

2. Annually the data from the receiving water monitoring (including wet weather and dry weather) shall be analyzed by using the State's Listing Policy to determine whether any pollutant exceeds the allowable frequency of exceedances in the receiving waters. A BMP pilot study should be initiated for those pollutants that exceed the allowable frequency of exceedances as outlined above. A trend analyses of the data shall be developed and the best model that describes the data shall be used in explaining any possible trends (linear or non linear).

IV. RECORD KEEPING REQUIREMENTS

A. All monitoring activities shall meet the following requirements:

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR 122.41(j)(1)]. Samples and measurements taken to meet the requirements of this Order shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality in the case of storm channels and flow quality in the case of streams and lakes. Representative sampling also includes development of a testable hypothesis, appropriate site selection, applicable and accepted sampling methodologies, laboratory methods, and frequency of sampling.

2. The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports prepared as per this MRP and records of all data used to complete the Report of Waste Discharge and annual reports for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge [40 CFR 122.41(j)(2), CWC section 13383(a)].

3. Records of monitoring information shall include [40 CFR 122.41(j)(3)]:

   a. The date, exact place, and time of sampling or measurements;

   b. The individual(s) who performed the sampling or measurements;

   c. The date(s) analyses were performed;

   d. The individual(s) who performed the analyses;

   e. The analytical techniques or methods used; and

f. The results of such analyses.

4. Calculations for all effluent limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this MRP [40 CFR 122.41(l)(4)(iii)].

B. PROGRAM EFFECTIVENESS ASSESSMENT AND REPORTING

1. All progress reports and proposed strategies and plans required by this Order shall be signed by the Principal Permittee, and copies shall be submitted to the Executive Officer under penalty of perjury.

2. The Permittees shall submit an annual report to the Executive Officer and to the Regional Administrator of the USEPA, Region 9, no later than November 30th, of each year. This progress report shall also be submitted in a mutually agreeable electronic format that is text searchable. Any monitoring data shall also be submitted electronically in the form outlined in Section IV.B.4 of this Monitoring and Reporting Program. At a minimum, the annual report shall include the following:

   a. A review of the status of program implementation and compliance (or non-compliance) with the schedules contained in this Order;

   b. An assessment of the effectiveness of control measures established under the illegal discharge elimination program and the DAMP. The effectiveness may be measured in terms of how successful the program has been in eliminating IC/IDs and/or reducing pollutant loads in urban storm water runoff, including summaries of Permittee actions to investigate and eliminate or permit IC/IDs and measures to reduce and/or eliminate the discharge of pollutants, including trash and debris

   c. As assessment of control measures and their effectiveness in addressing pollutants causing or contributing to an exceedance of water quality objectives in receiving waters that are on the 303(d) list of impaired waters. The effectiveness evaluation shall consider changes in land use and population on the quality of receiving waters and the impact of development on sediment loading within sediment impaired receiving waters and recommend necessary changes to program implementation and monitoring needs.

   d. An assessment of the Permittees compliance status with the Receiving Waters Limitations, Section VII of this Order, including any proposed

modifications to the DAMP if the Receiving Water Limitations are not fully achieved.

e. An overall program assessment. The Permittees are encouraged to use the program assessment methodology described in the 2006 ROWD. The Permittees should determine, to the extent practicable, water quality improvements and pollutant load reductions resulting from implementation of various program elements. The Permittees may also use the "Municipal Storm Water Program Effectiveness Assessment Guidance" developed by the California Storm Water Quality Association in May 2007 as guidance for assessing program effectiveness at various outcome levels. The assessment should include each program element required under this Order, the expected outcome and the measures used to assess the outcome. The Permittees may propose any other methodology for program assessment using measurable targeted outcomes.

f. Description of each program review/assessment,above, including updates to address program modifications and improvements identified during the program assessment above along with implementation schedule for incorporation of revisions into the local implementation plans (LIPs).

g. An assessment of any modifications to the WQMPs, or the DAMP made to comply with CWA requirements to reduce the discharge of pollutants to the MEP;

h. A summary, evaluation, and discussion of monitoring results from the previous year and any changes to the monitoring program to be made the following year;

i. A fiscal resources analysis progress report as described in Section XVII.B of Order No. R8-2009-0033 including:

   i. Each Permittee's expenditures for the previous fiscal year;

   ii. Each Permittee's budget for the current fiscal year; and

   iii. A description of the source of funds.

j. A draft work plan that describes the proposed implementation of the LIPs and DAMP for next fiscal year. The work plan shall include clearly defined tasks, responsibilities, and schedules for implementation of the storm water program and each Permittee's actions for the next fiscal year;

k. Major changes in any previously submitted plans/policies;

l. If the Implementation Agreement is revised, a copy of the signature page and revisions to the Implementation Agreement.

m. A review of each Permittee's Storm Water Ordinances and their enforcement practices to assess their effectiveness in prohibiting non-exempt, non-storm water discharges to the MS4 (The Permittees may propose appropriate control measures in lieu of prohibiting these discharges, where the Permittees are responsible for ensuring that dischargers adequately maintain those control measures).

3. The Co-Permittees shall be responsible for the submittal of all required information/materials needed to comply with this order in a timely manner to the Principal Permittee. A duly authorized representative of the Co-Permittee under penalty of perjury shall sign all such submittals.

4. The monitoring data transmittals to the Regional Board shall be in the form developed by the Storm Water Monitoring Coalition (SMC) and approved by the State Water Resources Control Board in the document entitled "Standardized Data Exchange Formats". This document was developed in order to provide a standard format for all data transfer so that data can be universally shared and evaluated from various programs. The data shall also be compatible with California's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan and with SWAMP's Procedures for Conducting Routine Field Measurement.

V. REPORTING SCHEDULE

All reports required by this Order shall be submitted to the Executive Officer in accordance with the following schedule:

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
III.A.1.e III.B.3.a,d,e & XVII.D.		Management Steering Committee meetings to discuss MS4 Permit implementation	Held at least twice per year.	Annual Report
III.A.1.f III.B.3.a,d,e & XVII.D.		Permittee Technical Committee meetings to discuss permit implementation	Held at least 10 times each year	Annual Report
III.B.3.a,d,e & XVII.D.		Co-Permittees participate in Management Steering and Technical Committee meetings to discuss MS4 Permit implementation	Attend at least 1 out of 2 Management and 8 out of 10 Technical meetings each year	Annual Report
III.A.1.r		The Principal Permittee shall develop a library of BMP performance reports, and revise the BMP performance report annually thereafter.	Within 6 months of permit adoption	
III.A.1.s		The Principal Permittee shall coordinate a review of area-wide documents with the Co-Permittees to determine the need for update or revisions and establish a schedule for those revisions.	Within 6 months of permit adoption	
III.B.2.g		Submit up-to-date MS4 facility maps	Annually to Principal Permittee	Annual Report
III.B.2.h		Submit reports & information for Annual Report	Annually to Principal Permittee	Annual Report

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
III.C.		Evaluate Implementation Agreement annually to determine need for revision.	Annually	Report findings and schedule for revisions to the Implementation Agreement in 2009-2010 Annual Report.
III.C.		Allow new permittees to join MS4 permit	Per schedule required in Section III.A.1.s	Report findings and schedule for revisions to the Implementation Agreement in 2009-2010 Annual report.
IV.A.		Principal Permittee shall develop and maintain a LIP Template	Within 18 months of adoption of Order and update annually thereafter.	
IV.B.		Complete a Co-Permittee specific LIP	Within 6 months of approval of the Template	Within 6 months of approval of the Template
VI.D.1.b.		Comply with WLA for Dry Weather bacterial indicators in MSAR	Dec. 31, 2015.	
VI.D.1.c.		Comply with WLA for Wet Weather bacterial indicators in MSA River	Dec. 31, 2025.	
VI.D.1.d.ii.		Submit a plan and schedule to achieve BacT indicator WLAs and submit Tri-annual data summary and compliance evaluation report	February 15, 2010 and every 3 years thereafter.	
VI.D.1.d.iii.		Report progress toward compliance with WLAs		Annual Report
VI.D.1.d.iii.c		Report revisions to the DAMP, LIP, or WQMP in response to TMDL requirements	Annually	Annual Report
VI.D.2.b.		Submit Phase 2 Alternatives	December 31, 2010	
		Submit O&M for Agreement for Fishery Management Program	December 31, 2010	
		Submit O&M for Agreement for Aeration and Mixing Systems	December 31, 2010	
		Submit Phase 2 Projects Plans	June 30, 2011	
		Complete Phase 2 Project Implementation	December 31, 2014	

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
		Implement in-lake and watershed monitoring programs	Annual Reports due August 31 every year.	
VI.D.2.c.		In-lake Processes Evaluation Study	December 31, 2009	
		Linkage Analysis Study	December 31, 2009	
		Watershed Source Loading Study	August 31, 2010	
		Model Evaluation	December 31, 2010	
		Construct/Calibrate Model	June 30, 2011	
		Conduct Model Scenarios	August 31, 2011	
		Model Update Final Report	November 30, 2011	
VI.D.2.d.		Conduct Feasibility analysis and ID Pollutant Trading Framework	March 2012	
		Create and Adopt Program Protocols and Program Implementation	August 2012	
		Submit Pollutant Trading Program	November 30, 2012	
VI.D.2.f.		Evaluate compliance with TMDLs and TMDL Implementation Plan tasks	Annually	Annual Report
VI.D.2.g.i.		Permittees within San Jacinto watershed shall identify representative Urban Runoff monitoring locations for discharges into the lakes	Within 12 months of adoption of Order	
VI.D.2.g.ii		Evaluate nutrient source reductions during the prior three years	Third Annual Report after adoption of Order	Third Annual Report
VII.D.1.a		Notify Regional Board if Section VI.A. discharges from MS4 causes exceedance of Receiving Water Quality Objectives.	---	2 working days verbal or email notice and 30 days written from time of becoming aware of the situation.
VII.D.1.e		Submit modified report required under VI.D.1		30 calendar days following receipt of written notice to modify report.

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
VII.D.4		Report any exceedance solely due to discharges outside the Permittees jurisdiction.	Within two (2) working days of becoming aware of the situation, provide oral or e-mail notice and provide written documentation within ten (10) calendar days of becoming aware of the situation.	
VII.D.2		Modify DAMP, LIP, and MRP to address Receiving Water Limit Violations and implementation schedule.	---	60 days after approval of Subsection VI.D.1 report by Executive Officer
VII.D.4		Report discovery of exceedances of Receiving Water Standards from non-jurisdictional sources.	---	Oral or email notice within 2 working days of becoming aware of situation and written documentation within 10 days from time of becoming aware of the situation.
VIII.C.		Promulgate ordinances that would control for known pathogen or bacterial indicator sources	Within 2 years of adoption	Within two (2) years of identification of known bacterial indicator sources that are determined to be significant within Co-Permittee's jurisdiction
VIII.E.		Review Storm Water Ordinances for effectiveness in prohibiting discharges to the MS4	Annual Report	First Annual Report
VIII.F.		Review of the effectiveness of ordinances and associated enforcement programs in prohibiting IC/ID to the MS4s	Annually	Annual Report
VIII. G.		Certification statement, signed by the Chief legal counsel, that the Permittee has obtained all necessary legal authority	Within 24 months	One year after Order adoption
VIII.H.		Permittees shall effectiveness of, implementation and enforcement response procedures.	Annually	Annual Report

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
IX. A.		Eliminate or permit IC/IDs		60 calendar days from receipt of notice from a third party.
IX.D.		Review and revise IC/ID program	18 months after Order adoption	Annual Report
IX.G.		Annually review and evaluate their IC/ID or IDDE program to determine if the program needs to be adjusted.	Annually	Annually
IX.H.		Maintain database summarizing IC/ID incident response	Annually	Annual Report
X.D.		Maintain inventory of septic systems within its jurisdiction completed in 2008.	Ongoing	Annual Report.
XI.A.1. & XI.A 2.		Submit a sortable electronic database of all construction, industrial, and commercial facilities within their jurisdiction that have a reasonable potential to discharge pollutants.		Annual Report
XI.A.11.		Each Permittee shall document, evaluate and annually report the effectiveness of its enforcement procedures in achieving prompt and timely compliance.	Annually	Annual Report
XI.A.13.		Permittees to evaluate and report adequacy of inspection programs conducted by other agencies on behalf of Permittee.	Annually	Annual Report

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XI.B.4.		An inventory and inspection frequency of: Wet Season(Oct 1 – May 31): High = 1/mo., Med = 2/season, low = 1/season Dry Season: All construction sites shall be inspected at a frequency sufficient to ensure that sediment and other Pollutants are properly controlled and that unauthorized, Non-Storm Water discharges are prevented		Annual Report
XI.C.3		All high priority industrial facilities are to be inspected at least once a year; all medium priority sites are to be inspected at least once every two years; and all low priority sites are to be inspected at least once per permit cycle.		Annual Report
XI.D.4		All high priority sites shall be inspected at least once a year; all medium priority sites shall be inspected at least every two years; and all low priority sites shall be inspected at least once per MS4 Permit cycle.		Annual Report
XI.D.6		Notify all mobile businesses operating within the County concerning the minimum source control and pollution prevention measures that they must develop and implement.	Within 18 months of adoption of this Order	Annually
XI.D.7		The Principal Permittee shall develop an enforcement strategy to address mobile businesses.	Within 24 months of adoption of this Order	Annually

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XI.E.1		Each Permittee shall develop and implement a residential program to reduce the discharge of Pollutants from residences to the MS4s to the MEP.	Within 18 months of adoption of this Order	Annually
XI.E.6.		Co-Permittees to provide an evaluation of its residential program	Annually starting with the second Annual Report following MS4 Permit adoption	Annually starting with the third Annual Report following MS4 Permit adoption
XII.B.3 & 4.		The Principal Permittee shall submit to the Regional Board a Watershed Action Plan	Within three years of adoption of MS4 Permit.	Annual Report
XII.B.6.		Within six months of Executive Officer approval of WAP DAMP revisions, Permittees shall implement.		Annually, starting with fourth Annual Report following adoption
XII.C.1.		Each Permittee shall review the watershed protection principles and policies in its General Plan	Within 24 months of adoption of this Order	Annually
XII.D.1.		Principal Permittee to submit a revised WQMP to incorporate new elements required in the Order	Within 18 months of adoption of this Order	Annual Report
XII.D.5.		Principal Permittee to develop recommendations for streamlining regulatory agency approval of regional Treatment Control BMPs.	Within 24 months of adoption of this Order	Annually
XII.E.1		Permittees shall update the WQMP to incorporate LID principles,	18 months of Order adoption	
XII.C.1.		Each Permittee shall identify barriers to LID implementation and revise ordinances, codes, building and landscape design standards to promote green infrastructure/LID implementation.	Within 24 months of adoption of this Order	2010-2011 Annual Report.
XII.E.5.		Each Permittee to update its landscape ordinance consistent with requirements of AB 1881 and annually evaluate effectiveness with respect to water efficiency and water conservation goals	January 31, 2010	2011-2012 Annual Report

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XII.E.1.		Permittees to review and update the WQMP guidance and template to incorporate LID principals and address impacts of urbanization on downstream hydrology	Within 6 months of MS4 Permit adoption	
XII.G1.		Permittees shall establish technically-based feasibility criteria for project evaluation to determine feasibility of implementing LID	Within 18 months of MS4 Permit adoption	No reporting specified
XII.H.		Each Permittee shall develop and implement standard procedures and tools, and include in its LIP.	Within 18 months of adoption of this Order	Annually
XII.K.4.		The Permittees shall develop a database to track operation and maintenance of post-construction BMPs.		Annually
XII.K.5		Treatment Control BMPs, shall be inspected prior to the rainy season.	Within the 5 year permit term.	Annually
XII.K.6.		Provide list of all post-construction Treatment Control BMPs approved, constructed and/or operating	Annually	Annual Report
XII.L.		Provisions for LID and HCOC included in WQMP.	Within 45 days of approval of WQMP.	
XIII.A.		Review public education and outreach efforts and revise their activities to adapt to the needs identified in the annual reassessment.		Annual Report
XIII.B.		Status report on Public Education and Outreach requirements and changes to the ongoing program	Annually	Annual Report
XIII.C.		Implement assessment program to measure increases in public knowledge of impacts of Urban Runoff on Receiving Waters	First Annual Report following MS4 Permit adoption	

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XIII.F.		The Permittees shall develop, maintain and distribute BMP guidance for the control of those potentially polluting activities identified during the previous permit cycle, which are not otherwise regulated by any agency, including guidelines for the household use of fertilizers, pesticides, herbicides and other chemicals, and guidance for mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance, and pavement cutting.	Within 12 months of adoption of this Order	Annual Report
XIII.I.		The Public Education Committee shall meet at least twice per year.		Annual Report
XIII.J..		Sponsor or staff an Urban Runoff table or booth at community, regional, and/or countywide events to distribute public education materials to the public. Each Permittee shall participate in at least one event per year.		Annually
XIII.K.		Involve public agency organizations, listed in Appendix 2, in Urban Runoff program. Notify the Regional Board where assistance is needed in improving local cooperation.		Annual Report
XIII.L		Develop and distribute BMP Fact Sheets for mobile businesses	Within 18 months of adoption of this Order	
XIV.A.		Review activities and facilities to determine the need for revisions to Section 5 of the DAMP and LIP.		Annual Report

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XIV.B.		Each Permittee shall review its inventory of fixed facilities listed in the DAMP, its field operations and drainage facilities to ensure that public agency facilities and activities do not cause or contribute to a Pollution or nuisance in Receiving Waters.	Within 12 months of adoption of this Order	Annual Report
XIV.C.		Conduct inspections of its fixed facilities and field operations.	Annually	Annual Report
XIV.E.		Unless otherwise determined, each Permittee shall inspect, clean & maintain at least 80% of it's open channels, catch basins, retention/detention basins, and wetlands created for Urban Runoff treatment.	Annually	Annual Report
XIV.G1.c.		Notify the Executive Officer of the proposed construction project by electronically submitting Permit Registration Documents (PRDs).	Prior to commencement of each construction project.	
XIV.G1.d.		the Executive Officer shall be notified of the completion of the project by submitting a Notice of Termination (NOT).	Upon completion of each construction project.	
XIV.G2.b.		Notify the Executive Officer of each proposed deminimus discharge at least 15 days prior to start of the discharge	At least 15 days prior to discharge.	At least 15 days prior to discharge.
XV.A		DAMP and each Permittee's LIP shall be updated to include a program to provide formal and where necessary, informal training to Permittee staff that implement the provisions of this Order	Within 24 months of adoption of Order	DAMP will be updated within 24 months of adoption of Order. LIP will be updated within 12 months of approval of LIP template by EO

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
XV.A., XV.E. .		Each Permitee's LIP shall describe a program to provide formal and informal training to Permittee staff and contractors that implement the provisions of this Order. Provide the specified training.	Within 24 months of adoption of this Order and annually thereafter.	LIP will be updated within 24 months of order adoption.
XV.F.		Principal Permittee shall provide and document training to applicable Permittee staff on area wide procedures such as the DAMP, and any other applicable guidance and procedures developed by the Permittees to address activities in fixed facilities as well as field operations, including MS4 maintenance.	Within 12 months of adoption of this Order, within 12 months of hire and every two years, thereafter.	Bi-annually
XV.H*		Principal Permittee shall notify Regional Board staff		When notifying Permittees of training session.
XVI.A.		Notify of noncompliant sites within its jurisdiction.		Within 24 hours of discovery
XVI.C		Sewage spill notification shall be consistent with the timelines specified in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ.		Consistent with 2006-003-DWQ.
XVI.E.		Facilities operating without an applicable General permit.		Reported within 14 calendar days
XVII.A.		Evaluate the effectiveness of the Urban Runoff management program.	By November 30 of each year.	Annually by November 30.
XVII.B.		Amended DAMP pages.		Annual Report
XVIII.B.		Financial analysis report		Annual Report
XXII.A.		Report of Waste Discharge	180 days before permit expires	Month Day, 2014
Appendix 3, III.C.		Review CMP to determine their effectiveness in Urban Runoff program assessment	Within 12 months of adoption of this Order	N/A

Reference		Item	Completion Time after Permit Adoption or Frequency	Report Due Date
Permit	**DAMP[(a)]**			
		Submit Revised CMP	Within 16 months of adoption of this Order and implement within 6 months of approval.	
Appendix 3, III.E.1.		Track progress for compliance with the MSAR Bacteria WLA at the location specified in the MSAR bactierial indicator TMDL or other appropriate urban source monitoring locations.	By February 15, 2010	Annual Report
Appendix 3, III.E.2.		Identify representative urban storm water runoff monitoring locations for discharges into Canyon Lake and Lake Elsinore	Within 12 months of adoption of this Order	Annual Report
		Evaluate the nutrient source reductions during the prior three years.	Beginning with the 2012-2013 annual report, and every three years thereafter	Triennial
Appendix 3, IV.B.2.		Annual Report	Annually	November 30th

(a) This column to be completed by Permittees.

Date:_____ Ordered by_____

Gerard J. Thibeault
Executive Officer